

NAME: _____ NAMES OF GROUP MEMBERS: _____

Directions: Roll the dice. Whoever gets the highest number will begin. To start, the first person selects one of the eight subtopics, then rolls one die to determine the number of statements he or she must make about the chosen subtopic. The other students should take notes as the first student shares information. EACH student completes the corresponding example. Compare your solutions as a group. The next student chooses the second subtopic and so on until all group members have had a turn and/or all the subtopics have been completed.

SUBTOPIC	RELATED INFORMATION	EXAMPLE
PRIME FACTORIZATION		<p>1. Write the prime factorization of 1260.</p> $ \begin{array}{c} 10 \wedge 126 \\ \wedge \quad \wedge \\ 5 \quad 2 \quad 2 \quad 61 \end{array} $ $2 \times 2 \times 5 \times 61$

SUBTOPIC	RELATED INFORMATION	EXAMPLE
<p>USING PRIME FACTORIZATION TO DETERMINE THE GCF</p>		<p>2. Determine the GCF of 84, 120 and 144. $GCF = 12$</p> <pre> 84 120 144 / \ / \ / \ 2 42 2 60 2 72 / \ / \ / \ 2 21 2 30 2 36 / \ / \ / \ 2 7 2 15 2 18 / \ / \ / \ 2 7 2 3 2 9 / \ / \ / \ 2 7 2 3 2 3 2 </pre>
SUBTOPIC	RELATED INFORMATION	EXAMPLE
<p>USING PRIME FACTORIZATION TO DETERMINE THE LCM</p>		<p>3. Determine the LCM of 49, 56 and 64.</p> <pre> 49 56 64 / \ / \ / \ 7 7 7 8 8 8 / \ / \ / \ 7 7 7 2 2 2 / \ / \ / \ 7 7 7 2 2 2 / \ / \ / \ 7 7 7 2 2 2 / \ / \ / \ 7 7 7 2 2 2 </pre> <p>$LCM = 2^6 \cdot 7^2 = 64 \cdot 49 = 3136$</p>

SUBTOPIC	RELATED INFORMATION	EXAMPLE
<p>USING PRIME FACTORIZATION TO DETERMINE THE SQUARE/CUBE ROOT</p>		<p>4. Determine the square root of 1521.</p> $\begin{array}{r} \wedge \\ 3 \ 507 \\ \hline 3 \ 169 \\ \hline \wedge \\ 13 \ 13 \end{array}$ $(3 \times 13) \times (3 \times 13)$ $\sqrt{1521} = 26$
SUBTOPIC	RELATED INFORMATION	EXAMPLE
<p>MULTIPLYING POLYNOMIALS</p>		<p>5. Expand and simplify $(x + 1)(3x - 7)$</p> $x^2 - 7x + 3x - 7$ $x^2 - 4x - 7$

SUBTOPIC	RELATED INFORMATION	EXAMPLE
MULTIPLYING POLYNOMIALS		<p>6. $(2m + 1)(3m - 2) - 5(2m - 2)(-3m + 1)$</p> $= 6m^2 - 4m + 3m - 2 - 5(-6m^2 + 2m + 6m - 2)$ $= 6m^2 - 4m + 3m - 2 - 5(-6m^2 + 8m - 2)$ $= 6m^2 - 4m + 3m - 2 + 30m^2 - 40m + 10$ $= 36m^2 - 41m + 8$

SUBTOPIC	RELATED INFORMATION	EXAMPLE
<p>FACTORING</p>		<p>7. Factor. Check by expanding. $-11 - 10t + t^2$</p> $t^2 - 10t - 11$ $(t - 11)(t + 1)$
SUBTOPIC	RELATED INFORMATION	EXAMPLE
<p>FACTORING</p>		<p>8. Factor. Check by expanding. $2a^2 + 20a + 50$</p> $2(a^2 + 10a + 25)$ $2(a + 5)(a + 5)$

